

# The Contributions of New Americans in Illinois



# Partners



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# Demographics

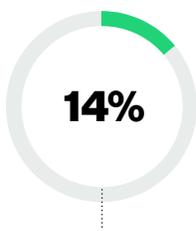
For decades, Illinois ranked as one of the top destinations for newly arrived immigrants to America. From the 1960s to the 1990s, Illinois was one of seven states that together attracted between 60 to 75 percent of the immigrants arriving the country each year.<sup>1</sup> In more recent years, the state's already large foreign-born population has continued to grow. Between 2010 and 2014, the foreign-born population in Illinois grew by almost 10,000 people.

Today, Illinois is home to nearly 1.8 million immigrants, the sixth-largest population of foreign-born residents of any state in the country. These new Americans serve as everything from software developers to metalworkers, making them critical contributors to the state's economic success overall.

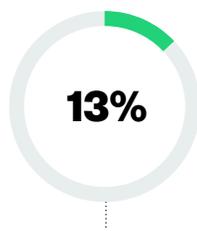
Today, Illinois is home to nearly **1.8 million** immigrants, the sixth-largest population of foreign-born residents of any state in the country.

# 1,769,147

Illinois residents were born abroad, the sixth largest immigrant population in the country.



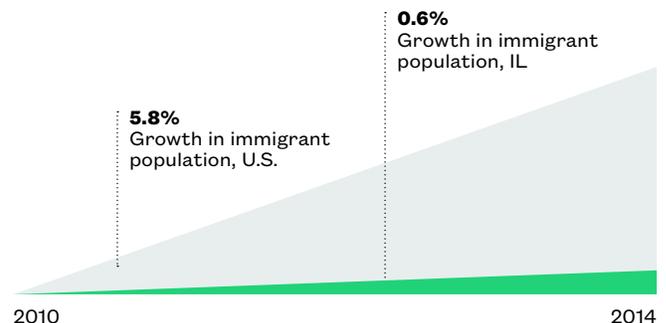
Share of Illinois residents born abroad



Share of U.S. residents born abroad

# 9,694

people immigrated to Illinois between 2010 and 2014.

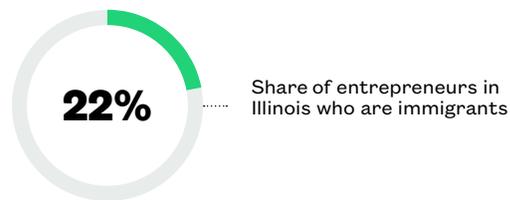


# The Role of Immigrants as Entrepreneurs

# 113,939

immigrants in Illinois are self-employed

Immigrant-owned businesses generated **\$2.6B** in business income in 2014.



**281,090** people in Illinois are employed at firms owned by immigrants.

\* This is a conservative estimate that excludes large, publicly owned firms.

**G**iven that the act of picking up and moving to another country is inherently brave and risky, it should be little surprise that immigrants have repeatedly been found to be more entrepreneurial than the U.S. population as a whole.<sup>2</sup> According to The Kauffman Foundation, a nonprofit group that studies entrepreneurship, immigrants were almost twice as likely to start a new business in 2015 than the native-born population.<sup>3</sup> The companies they founded ranged from small businesses on Main Street to large firms responsible for thousands of American jobs. Recent studies, for instance, have indicated that immigrants own more than half of the grocery stores in America and 48 percent of nail salons.<sup>4</sup> Foreign-born entrepreneurs are also behind 51 percent of our country's billion dollar startups,<sup>5</sup> and a substantial share of our Fortune 500 firms.

In 2010, roughly **1 in 10** American workers with jobs at private firms were employed at immigrant-founded companies.

The super-charged entrepreneurial activity of immigrants provides real and meaningful benefits to everyday Americans. In 2010, roughly one in 10 American workers with jobs at private firms were employed at immigrant-founded companies. Such businesses also generated more than \$775 billion in annual business revenue that year.<sup>6</sup> In Illinois, like the country as a whole, immigrants are currently punching far above their weight class as entrepreneurs. Foreign-born workers currently make up 22.1 percent of all entrepreneurs in the state, despite accounting for 13.7 percent of Illinois's population. Their firms generated \$2.64 billion in business income in 2014. Illinois firms

with at least one immigrant entrepreneur also provided jobs to roughly 281,000 Americans in 2007.<sup>7</sup>

Immigrant entrepreneurship was also important to Illinois's recovery after the Great Recession. From 2007 to 2011, immigrants founded almost one out of every three new businesses in the state.

## McDonald's, the iconic Fortune 500 fast food chain based in the state, was founded by Ray Kroc, the son of Czech immigrants.

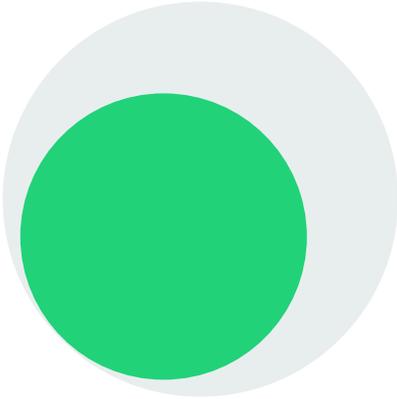
Immigrant entrepreneurs have long been a critical part of Illinois' economic success story. McDonald's, the iconic Fortune 500 fast food chain based in the state, was founded by Ray Kroc, the son of Czech immigrants. Kroc sold milkshake machines for years before having the idea to buy a small restaurant chain and turn it into a national brand.<sup>8</sup> Seventeen other Fortune 500 firms based in the state—including US Foods, Boeing, and Walgreens—have at least one founder who either immigrated to the United States or was the child of immigrants. Together, those 18 companies employ more than 1.4 million people globally and bring in almost \$430 billion in revenues each year.

All told, immigrants and their children have played a larger role founding Fortune 500 firms in Illinois than they have nationwide. Of the 32 Fortune 500 firms based in Illinois, 56.3 percent have at least one founder who was an immigrant or the child of an immigrant. For the country as a whole, the equivalent figure is 41.4 percent.

Currently, there is no visa to come to America, start a company, and create jobs for U.S. workers—even if an entrepreneur already has a business plan and has raised hundreds of thousands of dollars to support his or her idea. Trying to exploit that flaw in our system, countries around the world—from Canada to Singapore, Australia to Chile—have enacted startup visas, often with the explicit purpose of luring away entrepreneurs who want to build a U.S. business but cannot get a visa to do so.<sup>9</sup> Here in the United States, many individuals have gone to

great lengths to circumnavigate the visa hurdles. Many entrepreneurs sell a majority stake in their company and then apply for a visa as a high-skilled worker, rather than the owner of their firm. And a few enterprising venture capitalists, led by Jeff Busgang in Boston and Brad Feld in Colorado, have launched programs that bring over foreign-born entrepreneurs to serve as “entrepreneurs in residence” at colleges and universities. Because nonprofit academic institutions are exempt from the H-1B cap, such entrepreneurs can secure their visas by working as mentors at a school, and then build their startups in their free time.

These innovative programs, which are currently available at 13 colleges and universities across the country, are already resulting in meaningful economic contributions. As of mid-2016, 23 entrepreneurs had secured visas through these programs nationally. The companies they founded had created 261 jobs and raised more than \$100 million in funding.<sup>10</sup>



**56%**

of **Fortune 500** companies based in Illinois were founded by immigrants or their children.

Those firms generate **\$482.8B** in annual revenue, and employ **1,415,395** people globally.

SPOTLIGHT ON

# Rajinder Gupta

President, GIRR Group

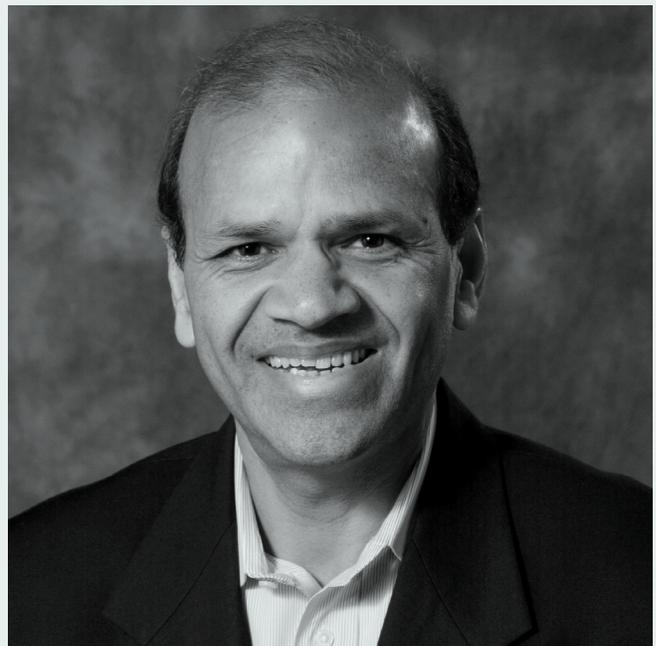
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Illinois is home to 32 Fortune 500 companies, the fourth most of any state in the country. More than half of these companies—18—had at least one founder who either immigrated to the United States or was the child of immigrants. Rajinder “Raj” Gupta, an immigrant himself, has personally advised the senior management of many of these firms.

Illinois is home to **32 Fortune 500 companies**. Rajinder Gupta has personally advised the senior management of many of these firms.

When Raj was 8 years old, his father, Sham Gupta, immigrated to America. An engineer born and educated in India, Sham was frustrated by the lack of opportunities there and the steep cost of private education for his five children. And so, in 1957, he decided to do something about it. “He took a huge risk, left his job, and came to America with \$8 in his pocket—I mean that seriously,” Raj says. Once his father arrived, he learned his degrees and credentials from back home were not recognized here. Sham worked multiple jobs and earned an engineering degree again, this time from Auburn University.

In 1960 Raj’s mother and sister joined Sham in America, leaving Raj and his three brothers behind at a prestigious Indian boarding school. The boys eventually followed three years later, arriving in Chicago in the winter of 1963. “We hardly knew our parents by the time we finally reunited with them,” Raj says, “and we certainly didn’t fully appreciate or understand why they had come here.” But quickly, the children began to take



advantage of the many opportunities America afforded. By age 15, Raj had graduated high school in Chicago. By age 18, he had earned an undergraduate degree in engineering from Louisiana State University. The family had packed up all their belongings in a '57 Ford and moved to Louisiana after Sham realized he couldn't afford the tuition at the University of Illinois. Back then, LSU cost just \$85 a semester. Raj followed up his undergraduate degree by earning a PhD in engineering from Duke University immediately after.

But risk taking was in Raj’s blood. Although he had an engineering job lined up at Bell Labs after graduation, he never much liked engineering, so he never showed up for day one. “I found two or three jobs in Chicago and decided to try out advertising,” Raj says, “Just

because it was different.” What was meant to be a 3-month stint turned into a 20-year career at his first firm—which had never hired someone of Indian descent before Raj joined its ranks. At the company, Raj took on roles leading marketing research for major clients like Heinz, United Airlines, and ABA. He became an account director, serving as the lead relationship manager for multibillion-dollar firms like Hewlett Packard and Green Giant. During his last six years at Leo Burnett Worldwide, the large Chicago-based advertising firm, he was tapped by management to be the Senior Vice President of Information Management—an important role given the increasing importance of information technology to the business.

**“What most people don’t realize is that most CEO decisions are 60-40 decisions, not 90-10 decisions,” he says, “There are no easy decisions to be made, and they really value an outside perspective.”**

In the coming years, Raj’s relationships with Fortune 500 companies and their executives would only deepen. He took a position as a Senior Partner and Director of Heidrick & Struggles, a world-class retained search firm. There he worked with senior management and boards of clients ranging from Fortune 500 firms to start-ups, helping them with C-level talent acquisition and leadership development. Six years later, he took a position with the faculty at the Kellogg School of Business at Northwestern University. While there, Raj was instrumental in helping to start a program known as CEO Perspectives, which brought together executives from major companies that their firms indicated had the potential to be future CEOs. Those executives would discuss how they handled all sorts of real-world, difficult problems—from organic growth to high turnover rates among service employees to bouncing back after Hurricane Katrina. Men and women who went on to be the CEOs of Walgreens, John Deere, McDonald’s, and ITW went through the program. “We created a place

where they could have candid discussions,” he says, “and they learned from each other immensely.”

Today, Raj works at a firm he started called the GIRR Group. In this capacity, he has served as a trusted advisor to CEOs at firms like Walgreens, Grainger, USG, and others. “Being a CEO can be a pretty isolating and lonely position,” Raj says, explaining that corporate leaders often have to make decisions after hearing vastly different recommendations from other executives on their team. “What most people don’t realize is that most CEO decisions are 60-40 decisions, not 90-10 decisions,” he says, “There are no easy decisions to be made, and they really value an outside perspective.” Raj says he doesn’t have a contract with individual clients, and tells them to walk away at any point if they are not happy. None have yet.

Raj’s clients employ hundreds of thousands of Americans, and he’s proud of have played a small role in their continued growth and success. He knows though that the legacy of his father has been far greater. Raj, his sister, and his three brothers have all built successful careers in America, and they have 17 children between them. They include doctors of almost every specialty, a neurosurgeon, lawyers, and even a senior executive at a Silicon Valley startup with a multibillion-dollar valuation. “Our family isn’t that different from so many other immigrant families in this country,” Raj says, “We came from virtually nothing—very humble surroundings—and this country has been incredibly good to us.”

# Income and Tax Contributions

Immigrants in Illinois play an important role contributing to the state as both taxpayers and consumers. In 2014, immigrant-led households in Illinois earned \$55.0 billion dollars—or 14.6 percent of all income earned by Illinoisan that year. With those earnings, the state’s foreign-born households were able to contribute more than one in every seven dollars paid by Illinois residents in state and local tax revenues, payments that support important public services such as public schools and police. Through their individual wage contributions, immigrants also paid almost \$7 billion into the Social Security and Medicare programs that year.

By spending the money they earn at businesses such as hair salons, grocery stores, and coffee shops, immigrants also support small business owners and job creation in the communities where they live. In Illinois immigrants held \$40.1 billion in spending power in 2014, defined in this brief as the net income available to a family after paying federal, state, and local taxes. We highlight the spending power and tax contributions of several subsets of Illinois’ foreign-born population below, including Hispanics and immigrants from Northern Africa or the Middle East.

## INCOME AND TAX CONTRIBUTIONS OF KEY GROUPS WITHIN ILLINOIS’ IMMIGRANT POPULATION, 2014

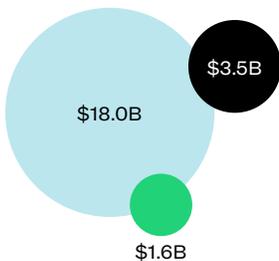
### Asian

**\$18.0B**

Total Income in 2014

**\$5.1B**

Total amount paid in taxes



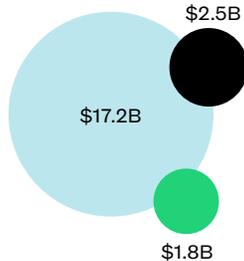
### Hispanic

**\$17.2B**

Total Income in 2014

**\$4.3B**

Total amount paid in taxes



### Middle Eastern & North African

**\$2.1B**

Total Income in 2014

**\$584.9M**

Total amount paid in taxes



### Sub-Saharan African

**\$1.1B**

Total Income in 2014

**\$292.1M**

Total amount paid in taxes



■ Total income   ■ Amount paid in federal taxes   ■ Amount paid in state and local taxes

In 2014, immigrants in Illinois earned **\$55.0B.**



**\$5.2B** — went to state and local taxes...

**\$9.8B** — went to federal taxes...

Leaving them with **\$40.1B** in remaining spending power.

#### ENTITLEMENT CONTRIBUTIONS

Illinois' immigrants also contribute to our country's entitlement programs. In 2014, through taxes on their individual wages, immigrants contributed **\$1.4B** to Medicare and **\$5.5B** to Social Security.



\$1.4B

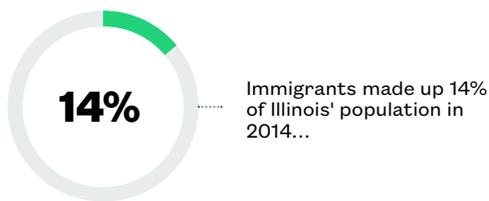
Medicare



\$5.5B

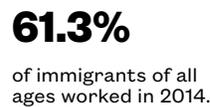
Social Security

# The Role of Immigrants in the Broader Workforce



Because they tended to be working-age,

Immigrants were **34.8%** more likely to work than native-born Illinoisans.

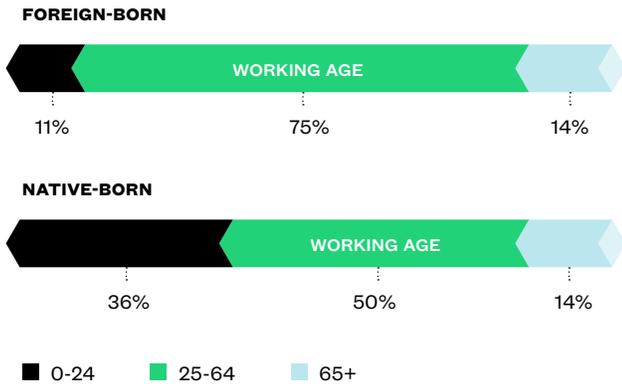


**P**eople who come to the United States often come here to work. Because of that, they frequently have skills that make them a good fit for our labor force—and a strong complement to American workers already here. In the country as a whole, immigrants are much more likely to be working-age than the U.S.-born. They also have a notably different educational profile. The vast majority of Americans – more than 79 percent of the U.S.-born population – fall into the middle of the education spectrum by holding a high school or bachelor’s degree. Immigrants, by contrast, are more likely to gravitate toward either end of the skill spectrum. They are more likely to lack a high school diploma than the native born, but also more likely to have an advanced degree. This makes them good candidates for labor-intensive positions, such as housekeeping, that many more educated U.S.-born

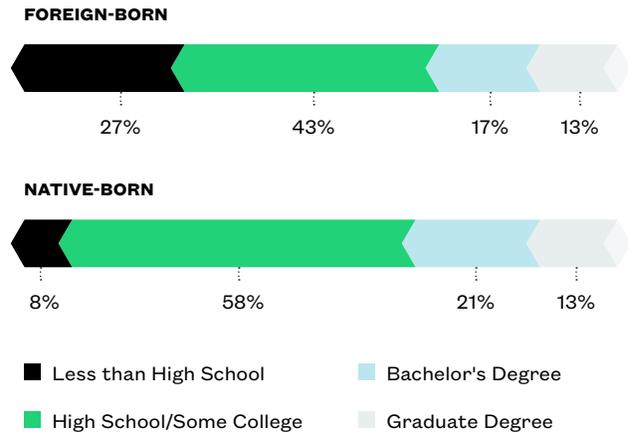
workers are less interested in pursuing, as well as high-level positions that allow innovation-driven firms to expand and add jobs for Americans at all skill levels.

Both these dynamics are strong in the state of Illinois. When it comes to educational attainment, immigrants in the state are somewhat more likely to hold a graduate degree than natives. They are also more than twice as likely to be educated at less than a high-school level. The foreign-born population is also strikingly more likely to be working age, which we define in this brief as ranging in age from 25 to 64. In Illinois, 74.9 percent of the foreign-born population falls into that age band, while only 49.8 percent of the native-born population does. That 25.2-percentage point gap, among the top 10 largest such gaps in the country, has major implications for the state’s workforce. In 2014, Illinois’s immigrants

**AGE BREAKDOWN OF ILLINOIS' FOREIGN-BORN AND NATIVE-BORN POPULATIONS, 2014**



**EDUCATIONAL ATTAINMENT OF ILLINOIS'S FOREIGN-BORN AND NATIVE-BORN POPULATION (AGES 25+), 2014**



were 34.8 percent more likely to be actively employed than the state’s native-born residents—a reality driven largely by the fact that a larger than average share of the native-born population was under the age of 25. Foreign-born individuals punched above their weight class as workers as well: In 2014, they made up 17.7 percent of all employed individuals in the state, despite accounting for 13.7 percent of Illinois’s population overall.

The immigrants who are working in Illinois contribute to a wide range of different industries in the state—many of which are growing and important parts of the local economy. Foreign-born residents make up more than two out of every five employees in the state’s private households. They also account for 33.3 percent of the state’s workers in traveler accommodation, contributing to Illinois’ sizeable tourism industry, which generate \$34.6 billion in Gross Domestic Product (GDP) for the state in 2013.<sup>11</sup> Immigrants also frequently gravitate toward sectors where employers may struggle to find enough interested U.S.-born workers. Immigrants in Illinois, for instance, make up 41.8 percent of workers in services to buildings and dwellings, an industry that includes exterminators and office cleaning staff.

In recent decades, immigrants have also played an important role in Illinois’s manufacturing industry.

Studies have found that the arrival of immigrants to a community can have a powerful impact creating or preserving manufacturing jobs. This is because foreign-born workers give employers access to a large and relatively affordable pool of laborers, making it less attractive for firms to move work to cheaper locations offshore. One study by the Partnership for a New American Economy and the Americas Society/Council of the Americas, for instance, found that every time 1,000 immigrants arrive in a given U.S. county, 46 manufacturing jobs are preserved that would otherwise not exist or have moved elsewhere.<sup>12</sup> The almost 1.8 million immigrants who were living in the state in 2010 were responsible for creating or preserving nearly 81,000 manufacturing jobs.

**The almost 1.8 million immigrants who were living in the state in 2010 were responsible for creating or preserving nearly 81,000 manufacturing jobs.**

Aside from just looking at overarching industry groups, our work also examines the share of workers that are foreign-born in specific occupations and jobs.

Immigrants in Illinois, like the country as a whole, are often overrepresented in either high-skilled or particularly labor-intensive positions. While foreign-born workers make up 17.7 percent of the state’s employed population, they account for 37.7 percent

of software developers for applications and systems software. They also make up 32.8 percent of the state’s cooks, and over half of those who work packaging a variety of goods for shipment by hand.

**INDUSTRIES WITH LARGEST SHARE OF FOREIGN-BORN WORKERS, 2014**

■ Share of workers who are immigrants



OCCUPATIONS WITH LARGEST SHARE OF FOREIGN-BORN WORKERS, 2014

**1**  
Packers and Packers,  
Hand



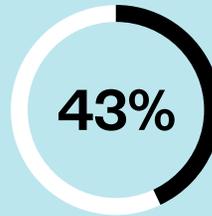
**23,297 immigrant workers**  
45,774 total workers

**2**  
Miscellaneous metal  
workers and plastic workers



**16,070 immigrant workers**  
24,235 total workers

**3**  
Maids and Housekeeping  
Cleaners



**27,698 immigrant workers**  
64,468 total workers

**4**  
Software Developers,  
Applications and Systems  
Software



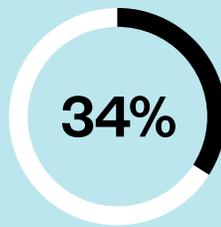
**16,648 immigrant workers**  
44,163 total workers

**5**  
Miscellaneous food  
preparation and serving  
related workers



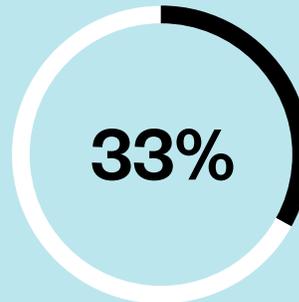
**8,352 immigrant workers**  
24,010 total workers

**6**  
Grounds Maintenance  
Workers



**23,497 immigrant workers**  
68,538 total workers

**7**  
Cooks



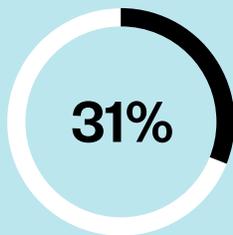
**42,563 immigrant workers**  
129,846 total workers

**8**  
Other production workers



**24,409 immigrant workers**  
75,821 total workers

**9**  
Miscellaneous Assemblers  
and Fabricators



**22,930 immigrant workers**  
73,451 total workers

**10**  
Painters, Construction and  
Maintenance



**7,991 immigrant workers**  
25,736 total workers

■ Share of workers who are immigrants

# Science, Technology, Engineering, and Math

**B**etween 2014 and 2024, science, technology, engineering, and math—or “STEM”—fields are projected to play a key role in U.S. economic growth, adding almost 800,000 new jobs and growing 37.0 percent faster than the U.S. economy as a whole.<sup>13</sup> Immigrants are already playing a huge part ensuring that Illinois remains a leading innovator in STEM fields like pharmaceutical development and mathematics. Despite making up 13.7 percent of the state’s population, foreign-born Illinoisans made up 23.2 percent of STEM workers in the state in 2014. Our outdated immigration system, however, makes it difficult for STEM employers to sponsor the high-skilled workers they need to fill critical positions. This is problematic because it can slow the ability of firms to expand and add jobs for U.S.-born workers. It also makes little sense, given the country’s ongoing shortage of STEM talent—an issue that heavily impacts employers here. In 2014, 13.0 STEM jobs were advertised online in Illinois for every one unemployed STEM worker in the state.

Despite making up **13.7%** of Illinois' population, immigrants represented **23.2%** of all STEM workers in the state in 2014.

Immigrants, however, are not just a crucial piece of Illinois’ STEM workforce now—they are also likely to power it in the future. In 2014 students on temporary visas made up roughly one out of every three students earning a STEM Master’s degree at Illinois’ universities, and 34.6 percent of students earning a PhD-level degree in STEM. Even after America’s universities invest in their education, however, many of those students struggle to remain in the country after graduation. Creating visa pathways that would make it easier for them to stay would have a major economic benefit to Illinois. A study by the Partnership for a New American Economy and the American Enterprise Institute found that every time a state gains 100 foreign-born STEM workers with graduate-level STEM training from a U.S. school, 262

# 144,608

available STEM jobs were advertised online in 2014, compared to **11,165** unemployed STEM workers.

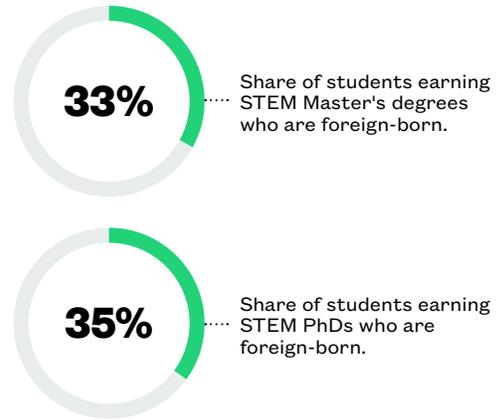
The resulting ratio of open jobs to available workers was

# 13 to 1



If half of Illinois' **3,909** advanced level STEM grads on temporary visas stayed in the state after graduation...

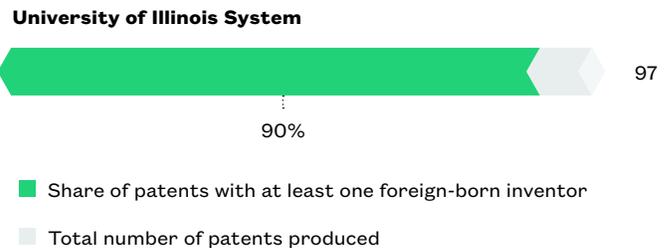
**5,121**  
jobs for U.S.-born workers would be created by 2021.



more jobs are created for U.S.-born workers there in the seven years that follow.<sup>14</sup> For Illinois, that means that retaining even half of the 3,909 graduates earning advanced-level STEM degrees in 2014 could result in the creation of more than 5,100 new positions for U.S.-born workers by 2021.

Illinois' immigrants also contribute to the state's economic growth and competitiveness by earning patents on cutting-edge research and products. In 2011, the University of Illinois system earned 97 patents, placing it among the top 10 most productive in the country. Almost 90 percent of those patents had at least one foreign-born inventor. Such patents are licensed to existing companies or used as foundations for new companies, creating American jobs and revenue along the way.

UNIVERSITY PATENTS WITH FOREIGN-BORN INVENTORS, 2011



SPOTLIGHT ON

# Laura Sanchez

CEO, SWATware

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**L**aura Sanchez, one of a tiny number of Latinas who own IT companies in the Chicago area, is proud to be a link between Chicago's STEM (Science, Technology, Engineering, and Mathematics) and Hispanic communities. Sanchez was born in Mexico got her degree from Tec de Monterrey, a school she describes as the "MIT of Mexico." She was 23, with a degree in international business and a minor in marketing, when she decided to start a life here in the United States, obtaining a green card as a child through family members already here.

**"Coming from Mexico, resources are limited. You have to be creative to solve problems," Sanchez says. "You needed to work with what you have and not just buy replacements."**

The United States was hardly new to her. She had been traveling back and forth between Mexico and the United States her whole life. She had spent short stints in D.C. and Nashville, Tennessee, working at the Pan-American Health Organization (PAHO) and the Tennessee Hispanic Chamber of Commerce respectively. There, Sanchez had realized that the IT industry was not doing a good job connecting technology people and business people, especially entrepreneurial Hispanics. So, when she moved to Cook County, right outside Chicago, she was determined to start her own company to address such issues. In 2008, Sanchez and her husband started SWATware LLC, an IT company, aimed at providing top-notch IT consulting and personalized customer



service to firms of all kinds, including those run by other Hispanics.

At first, Sanchez worked merely to get a foothold in the industry. She leveraged her bilingual and bicultural skills to communicate complicated technology concepts to local business owners in her neighborhood. She knocked on doors and handed out fliers until finally a local hair salon gave her her first opportunity. She started simple, designing business cards and creating websites. "Once they knew us," Sanchez says, "We could switch to the IT business. The IT industry is a very intimate business. Usually people don't give business to someone they don't know. We first needed to get people's trust and build a good reputation."

Sanchez believes her Mexican roots were key to her early success. “Coming from Mexico, resources are limited. You have to be creative to solve problems,” she says. “You needed to work with what you have and not just buy replacements.” She says that’s the reason her company excels at solving problems at affordable rates—a skill that proved invaluable since she was starting her firm initially at the start of the Great Recession.

Today, SWATware is a full service IT company that focuses on systems integration, IT telecommunications and cyber security. Sanchez estimates that, since SWATware’s founding, she has worked with 250 small and medium-sized businesses, doing everything from producing business cards to setting up network architectures. She currently works with about 30 ongoing clients, and she has a team of about 7 employees. Her firm also provides business to a host of outside contractors and other businesses—including insurance, accounting companies and HR firms.

**“Because we are bilingual and bicultural,” Sanchez says, “We can communicate complex IT concepts to everyone from the warehouse workers to the CEOs of a firm.”**

Sanchez says her goal is to keep small businesses safe from hackers. “Small businesses need to make sure they have a secure network to keep their information safe and maintain compliance for accepting credit card payments,” she says. “Anything connected to the Internet needs to be protected.” SWATware now also focuses on providing training to their customers’ employees to help protect their information. In this, Sanchez says she is often benefitted by her native fluency in Spanish. “Because we are bilingual and bicultural,” Sanchez says, “We can communicate complex IT concepts to everyone from the warehouse workers to the CEOs of a firm.”

All this innovation has led to some well-deserved recognition. In 2013 Sanchez was a recipient of the Nueva Latina Estrella Award for technology, an award Verizon created to celebrate the achievements of Latinas in the Midwest across different fields, and subsequently, in 2015, she was featured in Latino Leaders magazine as a Technology leader. She now hopes that her volunteer work with projects like Scientists for Tomorrow, a local youth STEM outreach program, will lead more Latinos into technology fields. Currently, she says, there is a shortage of talented IT workers, “Sometimes, you can’t find more than 100 people in the whole state of Illinois who knows certain technologies,” she says of some of her most in-depth work.

Sanchez knows we need to invest in our immigrants and give them opportunities to remedy our nation’s STEM shortage. Of her fellow immigrants she says, “We can be the solution to the scant resources that exist in STEM.”

# Healthcare

In the coming years, the American healthcare industry is projected to see incredibly rapid growth—adding more new positions from 2014 to 2024 than any other industry in our economy.<sup>15</sup> Already, caregivers are facing near unprecedented levels of demand. Between 2013 and 2015, the number of Americans with health insurance rose by almost 17 million,<sup>16</sup> opening the door for many patients to receive more regular care. The country’s 76.4 million baby boomers are also aging rapidly—at a major cost to our healthcare system. Studies have found that elderly Americans spend three

times more on healthcare services than those of working age each year.<sup>17</sup>

In Illinois, a state where almost one out of every seven residents is currently elderly, finding enough healthcare workers remains a challenge—and one that will likely worsen in the future. While the state has a healthy supply of practicing physicians, shortages impact a wide range of other healthcare fields. In 2014, 4.5 healthcare jobs were listed online in Illinois for every one unemployed healthcare worker in the state. Other occupations, such

## ILLINOIS HAS A SHORTAGE OF HEALTHCARE WORKERS

# 97,737

available healthcare jobs were advertised online in 2014, compared to **21,502** unemployed healthcare workers.

The resulting ratio of open jobs to available workers was

# 4.5 to 1



Additional number of psychiatrists needed now: **601**



Shortage of occupational therapists by 2030: **1,078**



Shortage of dentists projected by 2025: **897**

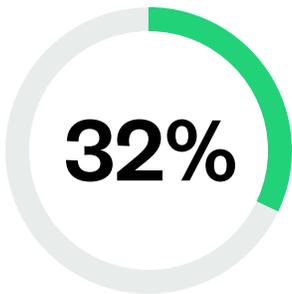


FOREIGN-BORN AND FOREIGN-EDUCATED PROFESSIONALS HELP FILL HEALTHCARE LABOR GAPS

Foreign-Educated

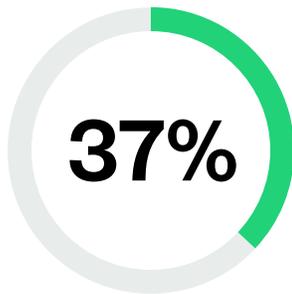
**Doctors**

12,719 graduates of foreign medical schools



**Psychiatrists**

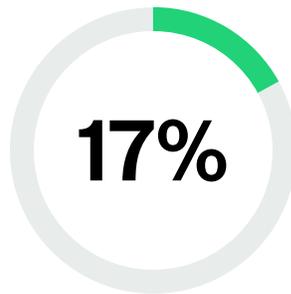
667 graduates of foreign medical schools



Foreign-Born

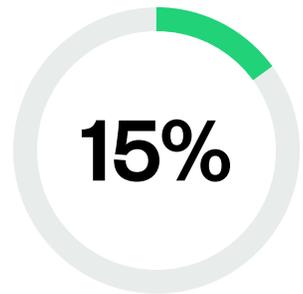
**Nurses**

23,650 foreign-born workers



**Nursing, Psychiatric, and Home Health Aides**

17,060 foreign-born workers



as psychiatrists, that are already stretched thin are projected to need hundreds of new workers by 2030, as are several health occupations that cater largely to seniors.

**In 2016 nearly 1 in 3 physicians in Illinois graduated from a foreign medical school, a likely sign that they were born elsewhere.**

Immigrants are already playing a valuable role helping Illinois meet some of its healthcare workforce gaps. In 2016 nearly one in three physicians in Illinois graduated from a foreign medical school, a likely sign that they

were born elsewhere. Only three states have a greater share of foreign-educated physicians. Immigrant healthcare practitioners also made up 17.0 percent of the state's nurses in 2014, as well as 15.2 percent of those working as nursing, psychiatric, or home health aides.

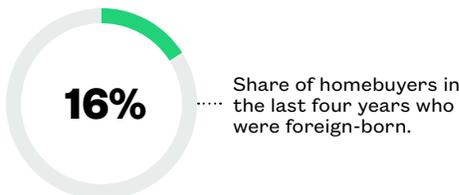
# Housing

Immigrant families have long played an important role helping to build housing wealth in the United States. One study released by the Partnership for a New American Economy and Americas Society/Council of the Americas, for instance, found that in recent decades the country's more than 40 million immigrants collectively raised U.S. housing wealth by \$3.7 trillion. Much of this was possible because immigrants moved into neighborhoods once in decline, helping to revitalize communities and make them more attractive to U.S.-born residents.<sup>18</sup>

In Illinois, immigrants are actively strengthening the state's housing market. In 2014, immigrant-led

households held more than \$110 billion in housing wealth in Illinois or more than one out of every six dollars concentrated in real estate that year. They also paid 19.1 percent of the money Illinoisans spent on rent, despite making up 15.7 percent of the state's households. Because Illinois's immigrants are more likely to be working age, they help address another major concern of housing experts as well— that the large wave of baby boomers retiring in the coming years could result in more homes going up for sale than there are buyers to purchase them. In a state where seniors already own 27.8 percent of homes, immigrant families made up more than one in six new homebuyers from 2010 to 2014.

Immigrants are **bolstering the housing market** by buying the wave of homes coming on the market as the baby boomers retire.



## 443,342

Number of immigrant homeowners in 2014

## \$110.4B

Amount of housing wealth held by immigrant households



## \$300.2M

Amount paid by immigrant-led households in rent



# Visa Demand

One key measure of the demand for immigrant workers involves the number of visas requested by employers in a given state. Before an employer can formally apply for many types of visas, however, it must first obtain “certification” from the Department of Labor—essentially a go-ahead from the DOL that the employer can apply for a visa to fill a given job or role. For the H-1B visa, which is used to sponsor high-skilled workers, an employer gains certification by filing what’s known as a Labor Condition Application, or LCA. In the LCA the employer must detail

the position the foreign national would fill, the salary he would be paid, and the geographic location of the job. Firms must also attest that hiring an immigrant will not adversely impact similarly situated American workers. For two other large work visa categories—the H-2A for agricultural laborers and the H-2B for seasonal or temporary needs—employers file what is known as a Labor Certification application, or a “labor cert” for short. To get a labor cert approved, the employer must demonstrate that it is unable to locate an American worker that is available, willing, and able to fill the job.

## H-1B

Number of positions:

**50,551**

**Top jobs:**

- Computer Systems Analysts
- Computer Programmers
- Software Developers, Applications

## GREEN CARD

Number of positions:

**2,736**

**Top jobs:**

- Software Developers, Applications
- Computer Systems Analysts
- Software Developers, Systems Software

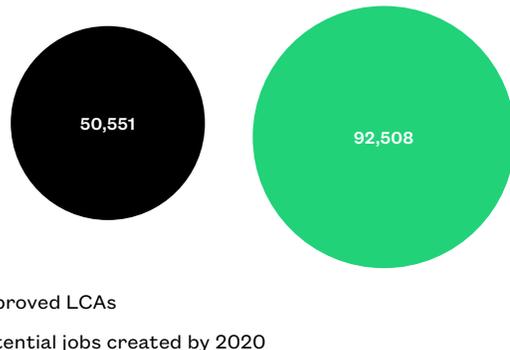
## CERTIFIED POSITIONS BY VISA TYPE, 2014



\* This includes only employment-based green cards

## IF ALL APPROVED LCAs HAD TURNED INTO VISAS...

**50,551 LCAs** for H-1B workers could have created **92,508 jobs**.



## H-2A

Number of positions:

**892**

**Top crops or jobs:**

- Fruits and Vegetables
- Corn
- Construction Livestock Building

## H-2B

Number of positions:

**1,441**

**Top jobs:**

- Landscaping and Groundskeeping Workers
- Amusement and Recreation Attendants
- Helpers-Roofers

In fiscal year 2014, Illinois employers received DOL certification for almost 56,000 positions, including jobs across a wide variety of occupations and geographies within the state. They included almost 51,000 positions for potential workers on H-1B visas, as well as roughly 900 for H-2A workers. Federal officials also issued more than 1,400 certifications for H-2B visas, which are frequently used to staff places like hotels, fisheries, and stables during the high season. Given that it is expensive and cumbersome for employers to obtain labor certs—and similarly daunting to formally apply for an H-1B visa—the large interest in all these visa categories indicates Illinois employers likely were having real trouble finding the workers they needed on U.S. soil.

Applying for a certification, however, is not the same as receiving a visa. The H-1B program is currently capped at 85,000 visas a year for private sector employers. In the country as a whole, this resulted in almost half of all such applications being rejected in fiscal year 2014 alone. The H-2B program is similarly limited to just 66,000 visas per year. Even permanent immigrants get ensnared in the limitations of our outdated immigration system. Only seven percent of all green cards can go to nationals of any one country in a given year—resulting in backlogs lasting years for many Indian, Chinese, Mexican, and Filipino workers.<sup>19</sup>

When companies are denied the visas they need, company expansion is commonly slowed—often at a real and meaningful cost to the U.S.-born population. One study by the Partnership for a New American Economy and the American Enterprise Institute estimated that when a state receives 100 H-2B visas, 464 jobs are created for U.S.-born workers in the seven years that follow.<sup>20</sup> The fact that H-1B visa holders actually create—not take away—jobs from Americans has also been widely supported in the literature. A 2013 paper written by professors at Harvard University looking at the 1995 to 2008 period found that 1 additional young, high-skilled immigrant worker hired by a firm created 3.1 jobs for U.S.-born workers at that same company during the period studied.<sup>21</sup> Other academics have tied each H-1B visa award or labor request with the creation of four<sup>22</sup> or five<sup>23</sup> American jobs in the immediate years that follow.

In this brief, we rely on a more conservative estimate of the impact of the H-1B program on the American workforce. Specifically, we use the estimate that every 1 additional H-1B visa awarded to a state was associated with the creation of 1.83 more jobs for U.S.-born workers there in the following seven years.<sup>24</sup> On the first page of this section, we show the number of jobs that would have been created for U.S.-born workers in Illinois by 2020 if all the fiscal year 2014 LCAs for H-1Bs had turned into actual visas.

We also show how the large number of H-1B visas denied to the Bloomington and Chicago metropolitan areas in 2007 and 2008 cost U.S.-born tech workers in those two cities in the two years that followed.

CITIES ARE DEMANDING VISAS ALL OVER THE STATE



BLOOMINGTON

264 H-1B denials for tech workers in the metro area cost computer workers there...

315 ↓

Potential new jobs and \$4.5M in aggregate wage growth in the two years that followed.

CHICAGO

14,820 H-1B denials for tech workers in the metro area cost computer workers there...

16,642 ↓

Potential new jobs and \$233.5M in aggregate wage growth in the two years that followed.

# Naturalization

Illinois’s immigrants are not only living in the state, they are also laying down roots in the state as well. Our analysis found that immigrants in Illinois are naturalizing, or becoming citizens, at considerably higher rates than they are in the country overall. In 2014, 51.0 percent immigrants in Illinois were already U.S. citizens. Nationally, the equivalent figure was 47.3 percent.

Like almost all parts of the country, however, Illinois is also home to a population of immigrants who are eligible to naturalize, but haven’t yet done so. Embracing public policies that would help those individuals navigate the naturalization process could have an important economic impact on the state. Studies have found that immigrants who become citizens seek out higher education at greater rates than non-citizens.<sup>25</sup> Because

citizenship allows immigrants to pursue a greater range of positions, including public and private sector jobs requiring a security clearance, it also has been found to raise a person’s annual wages. One study by researchers at the University of Southern California pegged the size of that wage increase at 8 to 11 percent.<sup>26</sup> If the average non-citizen in Illinois saw a wage boost at the low end of that range, or 8 percent, she would earn more than \$2,600 more per year— money that could be reinvested in the state’s economy through her spending at local businesses. Multiplied by the roughly 546,000 non-citizens in Illinois currently eligible to naturalize, such policy initiatives could collectively boost wages in the state by almost \$1.4 billion.

## 545,742

Number of non-citizens eligible to naturalize in 2014

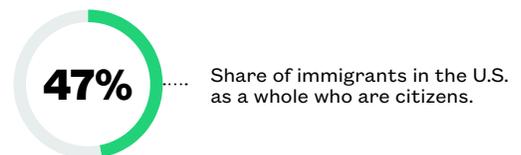
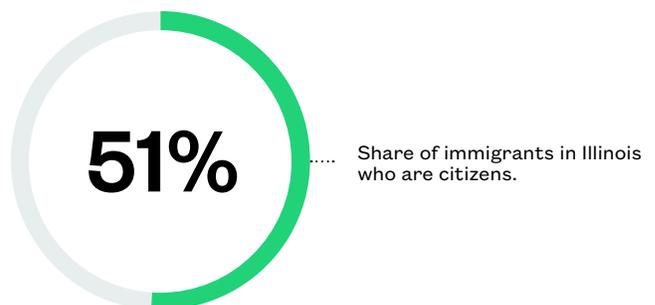


The average non-citizen in Illinois earns **\$32,945** per year. If they naturalized, they each could earn an average of **\$2,636 more** per year.

## \$1.4B

Aggregate additional earnings if eligible non-citizens naturalized.

### NATURALIZATION RATES IN ILLINOIS



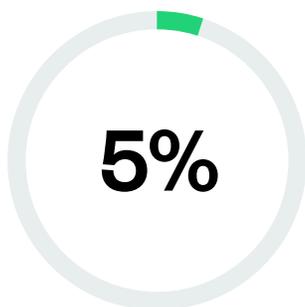
# International Students

**P**olicymakers are increasingly realizing that international students provide huge benefits to the communities where they live and study. The World Bank has found that an increase in the number of international graduate students studying at American schools leads to large boosts in the number of patents awarded to local research universities in the years that follow.<sup>27</sup> Through their tuition payments and day-to-day spending, international students in the broader United States also contributed more than \$30.5 billion to the U.S. economy in the 2014-2015 school year and supported more than 370,000 jobs.<sup>28</sup>

In Illinois, the roughly 38,000 international college students studying on temporary visas make up just 5 percent of all college students in the state. Still, their economic contribution is enormous. They support more than 17,000 jobs in the state, including positions in transportation, health insurance, and retail.

Through their tuition payments and day-to-day spending, international students in the broader United States also contributed more than **\$30.5 billion** to the U.S. economy in the 2014-2015 school year and supported more than **370,000 jobs**.

International students represent a very small portion of all students in Illinois, but they make a big impact...



International students make up only **5%** of all students in Illinois.

**\$1.2B**

Economic contribution of international students to the state, 2015.

**17,127**

Jobs supported by international students, 2015.

# Voting Power

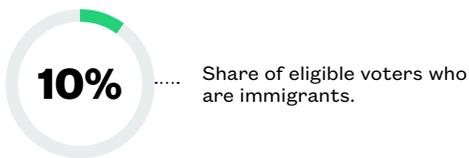
Immigrants in Illinois do not only make a difference to the state's economy, they also play a role at the voting booth. In 2014, Illinois was home to almost 870,000 foreign-born residents who were eligible to vote, including an estimated 472,000 foreign-born residents who had formally registered. Those numbers are unlikely to sway a presidential election in this relatively safe Democratic state, where President Barack Obama won by roughly 884,000 votes in 2012. Still, it can make a difference in closer statewide contests and primaries.

Going forward, immigrants will likely continue to gain voting power in Illinois. Based on voting participation patterns in recent years, we would expect almost

329,000 foreign-born voters to cast formal ballots in the presidential election this year. An additional 139,000 more immigrants will either naturalize or turn 18 by 2020, expanding the pool of eligible new American voters in Illinois to more than 942,000 people.

## 869,027

Number of immigrants eligible to vote.



## 471,514

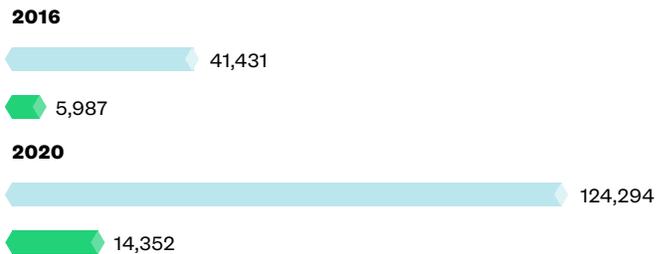
Number of immigrants registered to vote.

## 884,296

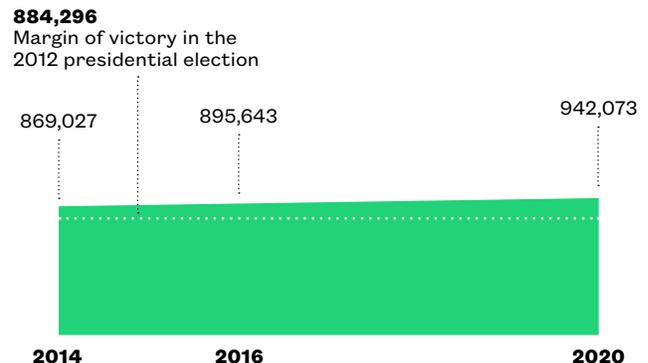
Margin of victory in the 2012 presidential election.

### THE GROWING POWER OF THE IMMIGRANT VOTE

- Immigrants who will become eligible to vote by turning 18
- Immigrants who will become eligible to vote through naturalization



### PROJECTED POOL OF ELIGIBLE IMMIGRANT VOTERS, 2014-2020



# Undocumented Population

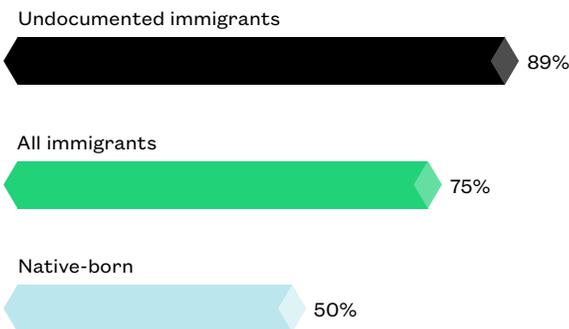
The United States is currently home to an estimated 11.4 million undocumented immigrants, the vast majority of whom have lived in the United States for more than five years. The presence of so many undocumented immigrants in our country for such a long time presents many legal and political challenges that are beyond the scope of this report. But while politicians continue to debate what to do about illegal immigration without any resolution, millions of undocumented immigrants are actively working across the country. Collectively, these immigrants have a large impact on the U.S. economy. One recent study found that 86.6 percent of undocumented males in the country were employed in 2012 and 2013, suggesting that most immigrants who come here illegally do so because of work opportunities.<sup>29</sup> And because employers are required by law to gather Social Security numbers for all their hires,

many undocumented individuals are paying into our tax system as well—often under falsified or incorrect Social Security numbers.<sup>30</sup> These undocumented immigrants generally lack access to federal aid programs such as Medicaid, food stamps, and Temporary Assistance for Needy Families, so they also draw down far less from these programs than their native-born counterparts.<sup>31</sup>

One recent study found that **86.6%** of undocumented males in the country were employed in 2012 and 2013, suggesting that most immigrants who come here illegally do so because of work opportunities.

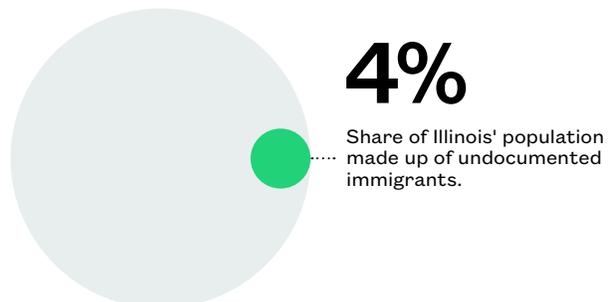
## UNDOCUMENTED IMMIGRANTS ARE MORE LIKELY TO BE WORKING-AGED THAN NATIVES OR OTHER IMMIGRANTS

Share of population ages 25-64, 2014



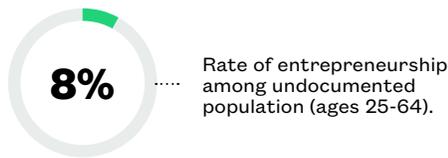
# 474,666

Estimated number of undocumented immigrants in Illinois.



# 32,571

Estimated number of undocumented entrepreneurs in Illinois.



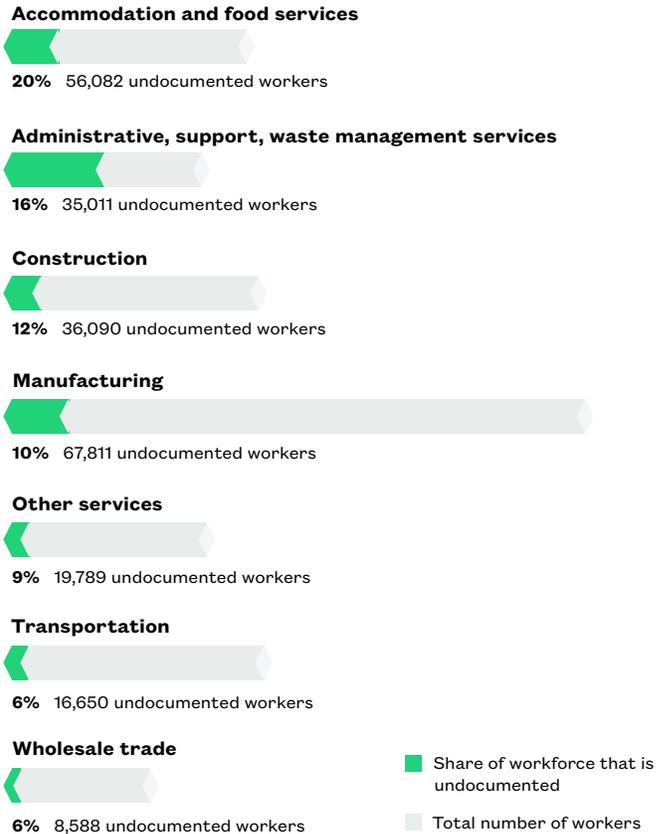
# \$726.2M

Total business income of self-employed entrepreneurs.

# 7.8%

Share of all working-age entrepreneurs in Illinois who are undocumented immigrants.

## THE ILLINOIS INDUSTRIES WHERE UNDOCUMENTED IMMIGRANTS MAKE UP THE LARGEST SHARE OF THE WORKFORCE, 2014



Of course, there are many compelling reasons that having a large undocumented population is a problem for a society. It undermines law and order, permits a shadow economy that is far harder to regulate, and is simply unfair to the millions of people who have come here legally. But as the undocumented immigration problem has gone largely unaddressed for the past 30 years, undocumented workers in the country have begun to play an increasingly integral role in many U.S. industries. In some sectors, such as agriculture, undocumented immigrants account for 50 percent of all hired crop workers, making them a critical reason why the industry is able to thrive on U.S. soil.<sup>32</sup> Many

studies have also indicated that these undocumented workers are not displacing the U.S.-born, but rather, taking jobs few Americans are interested in pursuing. Economists have found that low-skilled immigrants, the group that most undocumented immigrants fall into, tend to pursue different jobs than less-skilled natives. While U.S.-born workers without a high school degree are often overrepresented in forward-facing roles like cashiers, receptionists, and coffee shop attendants, many less-skilled immigrants pursue more labor-intensive work requiring less human interaction, filling jobs as meat processors, sewing machine operators, or nail salon workers.<sup>33</sup> This phenomenon exists within

industries as well. In construction, for instance, less-skilled immigrants often work as painters and drywall installers, allowing natives to move into higher paying positions requiring more training, such as electricians, contractors, and plumbers.<sup>34</sup>

The challenge of undocumented immigration is particularly evident in Illinois, which is home to one of the largest undocumented populations in the country. But just as with the nation as a whole, as these immigrants spend years and decades in America, they get further integrated into our economy. In Illinois, there is evidence that undocumented immigrants are playing an important role in the workforce. In this section, we estimate the size and the characteristics of the undocumented population in Illinois by conducting a close analysis of the American Community Survey from the U.S. Census. This work uses a series of variables to identify immigrants in the survey who are likely to lack legal status—a method that has recently emerged in the academic literature on immigration.<sup>35</sup> (See the Methodology Appendix for more details.)

Using this technique, we estimate that Illinois is home to almost 475,000 undocumented immigrants. These individuals are far more likely than the native-born population—or even the broader foreign-born one—to be in the prime of their working years, or ranging in age

from 25-64. They also contribute to a range of industries that could not thrive without a pool of workers willing to take on highly labor-intensive roles. In 2014, for instance, undocumented immigrants made up 20.4 percent of all employees in Illinois’s accommodation and food industry, a sector that includes fast food workers, dishwashers, and delivery drivers. They also made up almost one in six workers employed in administrative, support, and waste management services, as well as 12.4 percent of workers in construction.

Large numbers of undocumented immigrants in Illinois have also managed to overcome licensing and financing obstacles to start small businesses. In 2014, an estimated 7.8 percent of the state’s working-age undocumented immigrants were self-employed—meaning Illinois was one of two dozen states where unauthorized immigrants boasted higher rates of entrepreneurship than either legal permanent residents or immigrant citizens of the same age group. Almost 32,600 undocumented immigrants in Illinois were self-employed in 2014, many providing jobs and economic opportunities to others in their community. Undocumented entrepreneurs in the state also earned an estimated \$726 million in business income that year.

The larger political debate around the economic cost or benefits of undocumented immigration tends to focus

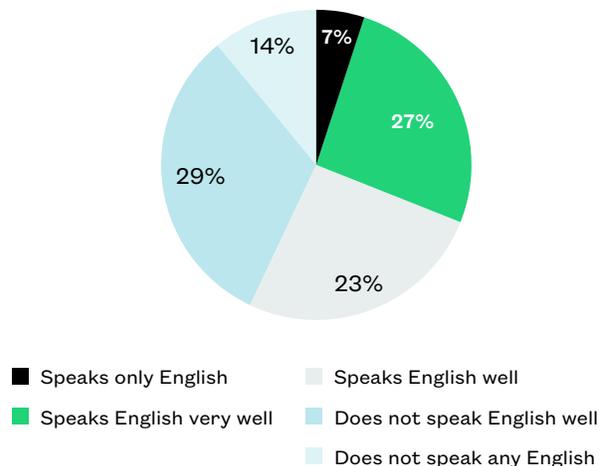
MEASURES OF ASSIMILATION AMONG ILLINOIS' UNDOCUMENTED POPULATION, 2014

Time in the United States



Share of undocumented immigrants who have been in the U.S. for five years or more.

English Proficiency (population ages 5+)



In 2014,  
undocumented  
immigrants in Illinois  
earned **\$7.8B**.

**\$415.2M**—went to state and local taxes...

**\$511.1M**— went to federal taxes...

Leaving them with **\$6.9B** in  
remaining spending power.

#### ENTITLEMENT CONTRIBUTIONS

Undocumented immigrants also contribute to our country's entitlement programs. In 2014, through taxes on their individual wages, immigrants contributed **\$12.0M** to Medicare and **\$63.4M** to Social Security.



Medicare



Social Security

on the expense of educating immigrant children or the healthcare costs associated with increased use of emergency rooms and other services. These costs are real and can be substantial, but taken alone they paint an incomplete picture of the impact of undocumented immigration. This is because the debate infrequently recognizes that since most undocumented immigrants are working, they make large federal and state tax contributions and frequently are net contributors to many of our most important—and most imperiled—benefits programs. Social Security’s Chief Actuary, for example, has credited unauthorized immigrants with contributing \$100 billion more to Social Security than they drew down in benefits during the last decade.<sup>36</sup> Several in-depth studies at the state level have similarly come to the conclusion that undocumented immigrants represent a net benefit to the states in which they live. One paper, from researchers at Arizona State University, estimated that undocumented immigrants in that state pay \$2.4 billion in taxes each year—a figure far eclipsing the \$1.4 billion spent on the law enforcement, education, and healthcare resources they use.<sup>37</sup> Another study estimated that, on a per capita basis, Florida’s undocumented immigrants pay \$1,500 more in taxes than they draw down in public benefits each year.<sup>38</sup>

## In 2014, we estimate that Illinois households led by undocumented immigrants earned more than **\$7.8 billion** in income.

Although we are currently unable to calculate the amount spent on any public benefits or services used by undocumented immigrant families, we can gain a fairly clear sense of the amount they are paying in taxes each year. A variety of studies have estimated that anywhere from 50 to 80 percent of households led by undocumented immigrants file federal income taxes annually.<sup>39</sup> Federal government officials have also estimated that 75 percent of undocumented workers have taxes withheld from their paychecks.<sup>40</sup> In this paper, we make the assumption that 50 percent of the country’s undocumented households paid income taxes in 2014. Although many experts would call this share

highly conservative, it has been modeled in several academic papers, and also by think tanks that specialize exclusively in the study of U.S. tax policy.<sup>41</sup>

In 2014, we estimate that Illinois households led by undocumented immigrants earned more than \$7.8 billion in income. Of that, they paid an estimated \$511.1 million in federal taxes, with \$63.4 million directly to the Social Security program. Illinois’s undocumented immigrants also made an important impact through their state and local tax contributions—money that many localities use to pay for police forces, public education, and city services like garbage collection and recycling. We estimate that Illinois’s undocumented immigrants paid more than \$415.2 million in state and local taxes in 2014.

Giving legal status to undocumented immigrants would increase their access to a variety of public benefits—resulting in potentially higher costs for federal, state, and local governments. But because legalization is expected to raise the earning power of undocumented immigrants and give them access to a wider array of jobs and educational opportunities, it would have the opposite effect as well, potentially allowing them to spend more as consumers and pay more in taxes each year.<sup>42</sup> Provisions within immigration reform requiring that undocumented immigrants pay any back taxes before normalizing their status would temporarily boost U.S. tax revenues still further.

But while the debate over legalization continues without resolution, the data suggests that the undocumented immigrants in Illinois have largely assimilated into the United States, making it less likely that mass deportation will ever be a realistic option. We estimate that 85.3 percent of the state’s undocumented population has been in the United States for five or more years. Almost two out of every five undocumented immigrants in the state speak English well, very well, or fluently. Studies show that when immigrants with limited English proficiency learn the language, they see a substantial wage benefit and become less isolated in their communities.<sup>43</sup> The labor market outcomes and educational levels of their children increase with time as well.<sup>44</sup>

# Methodology

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The vast majority of data that appears in this brief was calculated by the Partnership for a New American Economy research team, using a variety of publicly available data sources. Our work relied most heavily on the 2014 American Community Survey (ACS) 1-year sample using the Integrated Public Use Microdata Series (IPUMS) database. Unless otherwise noted this data is weighted using the person weight for analysis at the individual level, and is weighted using the household weight for analysis at the household level.

## Demographics

The data points on the foreign-born population in the demographics section are calculated using both the 2010 and 2014 ACS 1-year sample.

## Entrepreneurship

The data on self-employed immigrants and the business income generated by immigrant entrepreneurs come from the 2014 ACS 1-year sample. We define immigrants as foreign-born individuals (excluding those that are children of U.S. citizens or born on U.S. territories).

The number of employees at immigrant-owned firms is estimated by using the 2007 Survey of Business Owners (SBO) Public Use Microdata Sample (PUMS), which is the most recent microdata on business owners currently available. The estimates are weighted using the tabulation weights provided in the dataset. We define immigrant-owned businesses as firms with at least one foreign-born owner. For confidentiality, the data exclude businesses classified as publicly owned firms because they can be easily identified in many states. Based on our own analysis, we believe that many of the publicly owned firms excluded from this data are companies with

500 employees or more. As a result, the final number of employees at immigrant-owned companies in this report is a conservative estimate, and is likely lower than the true value.

Fortune magazine ranks U.S. companies by revenue and publishes a list of top 500 companies and their annual revenue as well as their employment level each year. To produce our estimates, we use the 2015 Fortune 500 list. Our estimates in this section build on past work done by PNAE examining each of the Fortune 500 firms in the country in 2011, and determining who founded them. We then use publicly available data, including historical U.S. Census records and information obtained directly by the firms, to determine the background of each founder. In the rare cases where we could not determine a founder's background, we assumed that the individual was U.S.-born to be conservative in our estimates. Some firms created through the merger of a large number of smaller companies or public entities were also excluded from our analysis. These included all companies in the utilities sector and several in insurance.

To produce the Fortune 500 estimates for each state, we allocate firms to the states where their current headquarters are located. We then aggregate and report the annual revenue and employment of the firms in each state that we identify as "New American" Fortune 500 companies. These are firms with at least one founder who was an immigrant or the child of immigrants.

## Income and Tax Contributions

Using the 2014 ACS 1-year data, we estimate the aggregate household income, tax contributions, and spending power of foreign-born households.

To produce these estimates, a foreign-born household is defined as a household with a foreign-born household head. Immigrant sub-groups are defined as follows: 1) Asian immigrants refer to the foreign-born persons who self identify as Chinese, Taiwanese, Japanese, Filipino, Asian Indian, Korean, Native Hawaiian, Vietnamese, Bhutanese, Mongolian, Nepalese, Cambodian, Hmong, Laotian, Thai, Bangladeshi, Burmese, Indonesian, Malaysian, Pakistani, Sri Lankan, Samoan, Tongan, Guamanian/Chamorro, Fijian, or other Pacific Islanders; 2) Hispanic immigrants include those foreign-born persons who report their ethnicity as Hispanic; 3) Immigrants grouped under Sub-Saharan Africa originate from African countries, excluding the North African countries of Egypt, Libya, Tunisia, Algeria, and Morocco ; 4) Middle Eastern and North African immigrants are foreign-born persons from North Africa as well as the following Middle Eastern countries: Iran, Iraq, Bahrain, Israel, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arab, Syria, United Arab Emirates, and Yemen.

In this brief, mirroring past PNAE reports on this topic, we use the term “spending power.” Here and elsewhere we define spending power as the disposable income leftover after subtracting federal, state, and local taxes from household income. We estimate state and local taxes using the tax rates estimates produced by Institute on Taxation and Economic Policy by state income quintiles. For federal tax rate estimates, we use data released by the Congressional Budget Office in 2014 and calculate the federal tax based on the household income federal tax bracket.

Social Security and Medicare contributions are drawn from taxes on an individual’s wage earnings. This is far different from a household’s overall income, which may include other revenue streams such as rental income and returns on investments. To account for this difference between overall federal taxes and Social Security and Medicare contributions, we estimate Medicare and Social Security contributions based on wage and salary data provided at the individual level in the ACS. For self-employed individuals, we use the self-employment income as the income base. The amount of earnings that can be taxed by the Social Security

program is capped at \$117,000, while there no such limit for the Medicare program. We use a flat tax rate of 12.4 percent to estimate Social Security contributions and 2.9 percent for to capture Medicare contributions. This estimates the total amount that immigrants and their employers contributed in 2014.

It is also worth noting that half of the amount contributed to Social Security and Medicare (6.4 percent of Social Security tax rate and 1.45 percent of Medicare tax rate) comes from individual workers, while the other half comes directly from their employers. Self-employed workers have to pay the full tax themselves. When estimating Social Security and Medicare contributions, we include all individual wage earners in the households and aggregate the amount paid by state.

## Workforce

We use the 2014 ACS 1-year sample to estimate all data points in the workforce segment of the report. We define the working age population as those 25 to 64 years old. When estimating how much more foreign-born persons are likely to be employed than native-born persons, however, we calculate the percentage of native-born and foreign-born residents of all ages who were employed in 2014. The reason why we choose a more inclusive population for that estimate is because we want to make the point that the increased likelihood of being working aged that we see among immigrants leads to higher employment in the vast majority of states.

Because the employment status of people who are 16 years old or younger is not available in the ACS, we assume that these young people are not employed. The employed population also does not include those in the Armed Forces.

To estimate how much more likely immigrants are to be employed than natives, we calculate the percent difference between the immigrant and native-born employment rates. Our estimates on the share of immigrants and natives of different education levels only take into consideration individuals aged 25 or older.

The North American Industry Classification System, or NAICS Industry code, is used to estimate the industries with the largest share of foreign-born workers. All individuals 16 years old and above are included in these calculations. The total number of workers for certain industries in some states is extremely small, thus skewing results. In order to avoid this, we calculate the percentile distribution of the total number of workers per industry per state and drop the industries in each state that fall below the lowest 25th percentile. Estimated occupations with the largest share of foreign-born workers per state also follow the same restrictions—the universe is restricted to workers age 16 and above, and the occupations per state that fall under the 25th percentile benchmark are not included.

Our estimates on the number of manufacturing jobs created or preserved by immigrants rely on a 2013 report by the Partnership for a New American Economy and the Americas Society/Council of the Americas. That report used instrumental variable (IV) strategy in regression analysis and found that every 1,000 immigrants living in a county in 2010 created or preserved 46 manufacturing jobs there. We use that multiplier and apply it to the 2010 population data from the ACS to produce our estimates.

## Agriculture

We access the agriculture GDP by state from Bureau of Economic Analysis, which includes GDP contributions from the agriculture, forestry, fishing, and hunting industry. The share of foreign-born agricultural workers is estimated using 2014 ACS 1-year sample. Additional data on agriculture output, top three crops per state, and leading agricultural exports come from United State Department of Agriculture (USDA)'s state fact sheets. When displayed, data on sales receipts generated by the top fresh produce items in each state come the Farm and Wealth Statistics cash receipts by commodity tables available from the USDA's Economic Research Service.

The agriculture section uses the Quarterly Census of Employment and Wage (QCEW) to estimate the percentage of crop farms producing fresh fruits and

vegetables, and change in real wage of agricultural workers between 2002 and 2014. The QCEW data uses the North American Industry Classification System (NAICS) to assign establishments to different industries. We identify the following farms as fresh fruits and vegetable farms: other vegetable and melon farming, orange groves, citrus, apple orchards, grape vineyards, strawberry farming, berry farming, fruit and tree nut combination farming, other non-citrus fruit farming, mushroom production, other food crops grown under cover, and sugar beet farming.

The decline in the number of field and crop workers comes from the quarterly Farm Labor Survey (FLS) administered by USDA. Stephen Bronars, an economist with Edgeworth Economics, previously analyzed and produced these estimates for the PNAE report, "A Vanishing Breed: How the Decline in U.S. Farm Laborers Over the Last Decade has Hurt the U.S. Economy and Slowed Production on American Farms" published in 2015. Additional information on those calculations can be found in the methodology section of that paper.

Finally, for a small number of states, we also produce estimates showing how growers in the state are losing market share for specific produce items consumed each year by Americans, such as avocados or strawberries. Those estimates originate in a 2014 report produced by PNAE and the Agriculture Coalition for Immigration Reform. The author used data from the USDA's annual "yearbook" for fresh fruits and vegetables, among other sources, to produce those estimates. More detail can be found in the methodology of that report.

## Science, Technology, Engineering, and Math

We use the STEM occupation list released by U.S. Census Bureau to determine the number and share of foreign-born STEM workers as well as the number of unemployed STEM workers from 2014 ACS 1-year data. Per U.S. Census classification, healthcare workers such as physicians and dentists are not counted as working in the STEM occupations. All unemployed workers who list

their previous job as a STEM occupation are counted as unemployed STEM workers.

To capture the demand for STEM workers, we use the Labor Insight tool developed by Burning Glass Technologies, a leading labor market analytics firm. Burning Glass, which is used by policy researchers and academics, scours almost 40,000 online sources daily and compiles results on the number and types of jobs and skills being sought by U.S. employers. This search includes online job boards, individual employer sites, newspapers, and public agencies, among other sources. Burning Glass has an algorithm and artificial intelligence tool that identifies and eliminates duplicate listings—including ones posted to multiple job boards as part of a broad search.

The data on STEM graduates are from the 2014 Integrated Postsecondary Education Data System (IPEDS) completion survey. A study by the Partnership for a New American Economy and the American Enterprise Institute found that every time a state gains 100 foreign-born STEM workers with graduate-level STEM training from a U.S. school, 262 more jobs are created for U.S.-born workers there in the seven years that follow. We use this multiplier and the number of STEM advanced level graduates on temporary visas to estimate the number of jobs created for U.S.-born workers.

The last part of the STEM section presents data on patents with at least one foreign-born inventor. The data is originally from a study by Partnership for a New American Economy in 2012, which relied on data from U.S. Patent and Trademark Office's database as well as LinkedIn, direct correspondence, and online profiles to determine the nativity of individual inventors.

## Healthcare

We estimate the number of unemployed healthcare workers using the 2014 ACS 1-year sample. Healthcare workers are healthcare practitioners and technical occupations, or healthcare support occupations as defined by U.S. Census Bureau.

Unemployed healthcare workers are individuals who report their previous job as a healthcare occupation, and their employment status as currently not working but looking for work. We took the number of job postings for healthcare workers from the Burning Glass Labor Insight tool, a database that scours online sources and identifies the number and types of job postings. We describe this resource in detail in the section on STEM methodology.

We then delve into specific occupations within the broader healthcare industry. To produce the figures on the total number of physicians and psychiatrists and the share born abroad, we use American Medical Association (AMA) Physician Masterfile data. To give a sense of the supply and demand of physicians and psychiatrists, we also calculate the physician and psychiatrist density in each state by dividing the total number of physicians or psychiatrists by the population estimates in 2015 for each state. As for the share of foreign-born nurses and home health aides, we use the 2014 ACS 5-year sample data because data from the 1-year sample is too small to make reliable estimates.

We estimate the shortage of psychiatrists, dentists, and occupational therapists using data from the various U.S. government offices. For example, the shortage of psychiatrists refers to the current lack of psychiatrists per the U.S. government's official definition of a mental health shortage area (1/30,000 residents) in each county, aggregated within each state. The shortage of dentists is from an analysis by U.S. Department of Health and Human Services, and the shortage of occupational workers is from a journal article published by PM&R, the official scientific journal of the American Academy of Physical Medicine and Rehabilitation. For psychiatrists, we project future shortages by accounting for individuals in these occupations as they reach the retirement age of 65.

## Housing

The data in the housing section comes from the 2014 ACS 1-year sample. Immigrant homeowners are defined as foreign-born householders who reported living in

their own home. We estimate the amount of housing wealth held by immigrant households by aggregating the total housing value of homes owned by immigrant-led households. We also estimate the amount of rent paid by immigrant-led households by aggregating the rent paid by such families. We then calculate the share of housing wealth and rent that immigrant households held or paid compared to the total population. For characteristics of homeowners, a foreign-born new homebuyer is defined as a household with a foreign-born household head who owned and moved to the current residence within the last five years.

## Visa Demand

The data on visa demand are drawn primarily from the 2014 Annual Report produced by the Office of Foreign Labor Certification within the U.S. Department of Labor. Our figures on the number of visa requests authorized for each state—as well as the occupations and cities those visas are tied to—originate directly from that report.

In this section, we also present estimates on the number of jobs that would have been created if all the visas authorized in 2014 had resulted in actual visa awards. The multipliers we use to produce these estimates originate in a 2011 report released by PNAE and the American Enterprise Institute. That report, written by the economist Madeline Zavodny, used a reduced-form model to examine the relationship between the share of each state’s population that was immigrant and the employment rate of U.S. natives. More detail on Zavodny’s calculations and the multipliers produced for each visa type can be found in the methodology appendix of that report.

For purposes of these briefs, we use Zavodny’s finding that the award of 100 additional H-1B visas in a state is tied to 183 additional jobs for natives there in the 7 years that follow. The award of 100 additional H-2B visas creates 464 additional jobs for natives in the state during that same time period. We apply these multipliers to the number of visas in those categories authorized for each state in 2014.

In many of the state reports, we also present figures showing how visa denials resulting from the 2007 and 2008 H-1B lotteries cost the tech sectors of metropolitan areas both employment and wage growth in the two years that followed. The economists Giovanni Peri, Kevin Shih, and Chad Sparber produced these estimates for a PNAE report on the H-1B visa system that was released in 2014. That report relied on Labor Condition Application and I-129 data that the authors obtained through a Freedom of Information Act request, as well as American Community Survey data from 2006 and 2011. The authors did regressions that examined the causal relationship between a “shock” in the supply of H-1B computer workers and computer employment in subsequent years for more than 200 metropolitan areas. More information on those estimates can be found in the methodology appendix of that report.

## Naturalization

Using the ACS 2014 1-year sample, non-citizens eligible to naturalize are defined as non-citizens who are 18 years or above, can speak English, and have continuous residence in the United States for at least five years.

Researchers at the University of Southern California’s Center for the Study of Immigrant Integration published a report in 2012, “Citizen Gain: The Economic Benefits of Naturalization for Immigrants and the Economy,” which concluded that immigrants experience an 8 to 11 percent gain in their individual wages as a result of becoming naturalized. Because this earnings gain phases in over time—and we want to be conservative in our estimates—we model a wage increase of just 8 percent when discussing the possible gains that could accrue due to naturalization. We use this multiplier and the mean individual wages of non-citizens in each state to estimate the additional earnings that non-citizens would earn if they naturalized. Finally, we calculate the aggregate wage earnings boost by multiplying the total number of non-citizens who are eligible for naturalization by the average increase in wage income per person.

## International Students

We obtain the size and share of postsecondary students who are international in each state from the 2014 Integrated Postsecondary Education Data System (IPEDS) fall enrollment data. Those figures are then applied to preexisting work previously done by NAFSA, an organization representing professionals employed in the international offices of colleges and universities across the United States. NAFSA has developed an economic value tool and methodology that estimates the total economic benefit and jobs created or supported by international students and their dependents in each state. The economic contributions include the costs of higher education along with living expenses minus U.S.-based financial support that international students receive.

Because the enrollment data from IPEDS that we use in this brief is different from the underlying data used by NAFSA, our figures differ slightly from the NAFSA estimates of the economic contributions made by international students in the 2014-2015 school year.

## Voting

The estimates for the number of registered and active voters who are foreign-born are calculated from the Voter Supplement in the Current Population Survey (CPS) for the years 2008, 2010, 2012, and 2014 using the IPUMS database. The sample in CPS includes civilian non-institutional persons only. Foreign-born individuals who stated having voted between 2008 and 2014 are termed active voters.

Using data from the 2014 ACS 1-year sample, we estimate the number and share of foreign-born eligible voters. We define them as naturalized citizens aged 18 or older who live in housing units. Persons living in institutional group quarters such as correctional facilities or non-institutional group quarters such as residential treatment facilities for adults are excluded from the estimation. We also estimate the number of new foreign-born voters who will become eligible to vote in 2016 and 2020, either by turning 18 or through

naturalization, as well as the total number of foreign-born voters in these years. The estimates of newly eligible voters for 2016 include naturalized citizens ages 16 and 17 as of 2014 (thereby becoming of voting age by 2016). Those eligible to vote in 2020 include all naturalized citizens ages 12-17 in 2014. Applicable mortality rates are also applied. In addition, we estimate newly naturalized citizens using data from the Department of Homeland Security, which show the two-year average of new naturalized citizens by state. We discount from these numbers the percentage of children below 18 in households with a naturalized householder by state. Estimates of total foreign-born voters include naturalized citizens aged 18 or older in 2014, discounted by average U.S. mortality rates by age brackets, summed to the pool of newly eligible foreign-born voters.

Margin of victory in 2012 refers to President Barack Obama's margin of victory over Republican candidate Mitt Romney in terms of popular vote. The margins are negative in states that Romney won in 2012.

## Undocumented

Using data from the 2014 ACS, we applied the methodological approach outlined by Harvard University economist George Borjas to arrive at an estimate of the undocumented immigrant population in the overall United States and individual states. The foreign-born population is adjusted for misreporting in two ways. Foreign-born individuals who reported naturalization are reclassified as non-naturalized if the individual had resided in the United States for less than six years (as of 2014) or, if married to a U.S. citizen, for less than three years. We use the following criteria to code foreign-born individuals as legal U.S. residents:

- Arrived in the U.S. before 1980
- Citizens and children less than 18 year old reporting that at least one parent is native-born
- Recipients of Social Security benefits, SSI, Medicaid, Medicare, Military insurance, or public assistance

- Households with at least one citizen that received SNAP
- People in the armed forces and veterans
- People attending college and graduate school
- Refugees
- Working in occupations requiring a license
- Government employees, and people working in the public administration sector
- Any of the above conditions applies to the householder's spouse

The remainder of the foreign-born population that do not meet this criteria is reclassified as undocumented. Estimates regarding the economic contribution of undocumented immigrants and the role they play in various industries, and tax contributions are made using the same methods used to capture this information for the broader immigrant population in the broader brief. When estimating the aggregate household income, spending power, and tax contributions, we are not able to make reliable estimates for undocumented-led households in Alaska, Maine, Montana, North Dakota, South Dakota, Vermont, and West Virginia due to the small sample size of undocumented-led households in ACS. Finally, the variables giving a sense of the undocumented population's level of assimilation—including their English proficiency and time in the United States—are estimated by examining the traits of the undocumented population in the 1-year sample of the ACS.

# Endnotes

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- 1** Aaron Terrazas, “Immigrants in New-Destination States,” Migration Policy Institute, 2011, <http://www.migrationpolicy.org/article/immigrants-new-destination-states>.
- 2** Vivek Wadhwa et al., “America’s New Immigrant Entrepreneurs: Part I,” SSRN Scholarly Paper, Social Science Research Network, 2007, <http://papers.ssrn.com/abstract=990152>; Robert Fairlie, “Open For Business: How Immigrants Are Driving Small Business Creation In The United States,” Partnership for a New American Economy, 2012, <http://www.renewoureconomy.org/research/open-for-business-how-immigrants-are-driving-small-business-creation-in-the-united-states-2/>.
- 3** Arnobio Morelix et al., “The Kauffman Index 2015: Startup Activity | State Trends,” SSRN Scholarly Paper, Social Science Research Network, 2015, <http://papers.ssrn.com/abstract=2614598>.
- 4** David Dyssegaard Kallick, “Bringing Vitality to Main Street: How Immigrant Small Businesses Help Local Economies Grow,” New York: Fiscal Policy Institute and Americas Society/Council of the Americas, 2015, <http://www.as-coa.org/articles/bringing-vitality-main-street-how-immigrant-small-businesses-help-local-economies-grow>.
- 5** Stuart Anderson, “Immigrants and Billion Dollar Startups,” NFAP Policy Brief March, 2016, <http://nfap.com/wp-content/uploads/2016/03/Immigrants-and-Billion-Dollar-Startups.NFAP-Policy-Brief.March-2016.pdf>.
- 6** Robert Fairlie, “Open For Business: How Immigrants Are Driving Small Business Creation In The United States”
- 7** This is the most recent year for which data on employment is available.
- 8** “Ray Kroc Biography,” Biography.com, <http://www.biography.com/people/ray-kroc-9369349>.
- 9** Somini Sengupta, “Countries Seek Entrepreneurs From Silicon Valley,” The New York Times, 2013, [http://www.nytimes.com/2013/06/06/technology/wishing-you-and-your-start-up-were-here.html?\\_r=0](http://www.nytimes.com/2013/06/06/technology/wishing-you-and-your-start-up-were-here.html?_r=0).
- 10** Craig Montuori, email message to author, June 23, 2016.
- 11** “The Economic Impact of Travel on Illinois Counties 2013” Illinois Bureau of Tourism. Accessed June 13, 2016.
- 12** Jacob Vigdor, “Immigration and the Revival of American Cities,” Partnership for a New American Economy, 2013, <http://www.renewoureconomy.org/issues/american-cities/>.
- 13** Based on author’s analysis of the U.S. Bureau of Labor Statistics, employment projections, 2014-2024. Accessed May 19, 2016, available here: [http://www.bls.gov/emp/ep\\_table\\_107.htm](http://www.bls.gov/emp/ep_table_107.htm).
- 14** Madeline Zavodny, “Immigration and American Jobs,” The Partnership for a New American Economy and the American Enterprise Institute, 2011, [http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE\\_Im-AmerJobs.pdf](http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE_Im-AmerJobs.pdf).
- 15** “Employment Projections: 2014-24 Summary,” Bureau of Labor Statistics Economic News Release, last updated December 8, 2015. Available here: <http://www.bls.gov/news.release/ecopro.nr0.htm>.

- 16** Carman, Katherine Grace, Christine Eibner, and Susan M. Paddock, Rand Corporation, "Trends in Health Insurance Enrollment, 2013-15," *Health Affairs*, v. 34, No. 6, June 2015, p 1044-1048.
- 17** Keehan, Sean P, Helen C. Lazenby, Mark A. Zezza, and Aaron S. Catlin, "Age Estimates in the National Health Accounts," *Health Care Finance Review* 2, no. 2 (2003).
- 18** Jacob Vigdor, "Immigration and the Revival of American Cities," Partnership for a New American Economy, 2013, <http://www.renewoureconomy.org/issues/american-cities/>.
- 19** "Visa Bulletin for May 2016," U.S. Department of State, last modified April 12, 2016.
- 20** Madeline Zavodny, "Immigration and American Jobs," The Partnership for a New American Economy and the American Enterprise Institute, 2011, [http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE\\_Im-AmerJobs.pdf](http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE_Im-AmerJobs.pdf).
- 21** Sari Pekkala Kerr, William R. Kerr, and William F. Lincoln. "Skilled Immigration and the Employment Structures of U.S. Firms." NBER Working Paper No. 19658, National Bureau of Economic Research, Cambridge, MA, 2013.
- 22** Matthew J. Slaughter, "Job Clocks Background," Hanover, NH, 2013, [http://faculty.tuck.dartmouth.edu/images/uploads/faculty/matthew-slaughter/jobs\\_clock.pdf](http://faculty.tuck.dartmouth.edu/images/uploads/faculty/matthew-slaughter/jobs_clock.pdf).
- 23** "NFAP Policy Brief: H-1B Visas by the Numbers." National Foundation for American Policy, Washington, DC, 2009.
- 24** Madeline Zavodny, "Immigration and American Jobs" These positive benefits have been documented despite well-known problems regarding the H-1B visa system. The safeguards to protect American workers have not been updated since 1998, opening the door to increased use of the visa by a small number of outsourcing firms. This has left many U.S. companies with no reliable avenue to bring in the top talent they need to grow. PNAE has long advocated for legislation that would reform the H-1B program, including the recently introduced Protect and Grow American Jobs Act. Read more here: <http://www.renewoureconomy.org/uncategorized/press-release-statement-of-partnership-for-a-new-american-economy-on-the-protect-and-grow-america-jobs-act/>.
- 25** Jacob L. Vigdor, *From Immigrants to Americans: The Rise and Fall of Fitting In* (Rowman & Littlefield, 2010); Bernt Bratsberg, James F. Ragan, Jr., and Zafar M. Nasir, "The Effect of Naturalization on Wage Growth: A Panel Study of Young Male Immigrants," *Journal of Labor Economics* 20, No. 3 (2002)
- 26** Manuel Pastor and Justin Scoggins, "Citizen Gain: The Economic Benefits of Naturalization for Immigrants and the Economy," 2012, <http://www.immigrationresearch-info.org/report/university-southern-california/citizen-gain-economic-benefits-naturalization-immigrants-and-e>.
- 27** Aaditya Mattoo, Gnanaraj Chellaraj, and Keith E. Maskus, "The Contribution of Skilled Immigration and International Graduate Students to U.S. Innovation", The World Bank, 2005, <http://documents.worldbank.org/curated/en/2005/05/5800523/contribution-skilled-immigration-international-graduate-students-innovation>.
- 28** NAFSA, "NAFSA International Student Economic Value Tool," accessed May 17, 2016
- 29** George J. Borjas, "The Labor Supply of Undocumented Immigrants," NBER Working Paper (National Bureau of Economic Research, 2016), <https://ideas.repec.org/p/nbr/nberwo/22102.html>.

- 30** Lisa Christensen Gee, Matthew Gardener, and Meg Wiehe, “Undocumented Immigrants’ State & Local Tax Contributions,” The Institute on Taxation and Economic Policy, 2016, <http://www.immigrationresearch-info.org/report/other/undocumented-immigrants%E2%80%99-state-local-tax-contributions>.
- 31** Ryan Honeywell, “How Language Fits Into the Immigration Issue,” *Governing*, 2012, <http://www.governing.com/topics/public-workforce/gov-how-language-fits-into-the-immigration-issue.html>.
- 32** Thomas Hertz, Zahniser Steven, “USDA Economic Research Service - Immigration and the Rural Workforce,” United States Department of Agriculture Economic Research Service, 2014, <http://www.ers.usda.gov/topics/in-the-news/immigration-and-the-rural-workforce.aspx>.
- 33** Maria E. Enchautegui, “Immigrant and Native Workers Compete for Different Low-Skilled Jobs,” Urban Institute, 2015, <http://www.urban.org/urban-wire/immigrant-and-native-workers-compete-different-low-skilled-jobs>.
- 34** Scott A. Wolla, “The Economics of Immigration: A Story of Substitutes and Complements,” *Page One Economics Newsletter*, 2014.
- 35** George J. Borjas, “The Labor Supply of Undocumented Immigrants,” NBER Working Paper (National Bureau of Economic Research, 2016), <https://ideas.repec.org/p/nbr/nberwo/22102.html>.
- 36** Roy Germano, “Unauthorized Immigrants Paid \$100 Billion Into Social Security Over Last Decade,” *VICE News*, 2014, <https://news.vice.com/article/unauthorized-immigrants-paid-100-billion-into-social-security-over-last-decade>.
- 37** Judith Gans, “Immigrants in Arizona: Fiscal and Economic Impact”, Udall Center for Studies in Public Policy, University of Arizona, 2007
- 38** Emily Eisenhauer et al., “Immigrants in Florida: Characteristics and Contributions,” Research Institute on Social and Economic Policy, Florida International University, 2007, [https://risep.fiu.edu/research-publications/immigration/immigration-in-florida/2007/immigrants-in-florida-characteristics-and-contributions/immigrants\\_spring\\_2007\\_reduced.pdf](https://risep.fiu.edu/research-publications/immigration/immigration-in-florida/2007/immigrants-in-florida-characteristics-and-contributions/immigrants_spring_2007_reduced.pdf).
- 39** Laura E. Hill and Hans P. Johnson, “Unauthorized Immigrants in California: Estimates for Counties,” Public Policy Institute of California, 2011, <http://www.ppic.org/main/publication.asp?i=986>.
- 40** Eduardo Porter, “Illegal Immigrants Are Bolstering Social Security With Billions,” *The New York Times*, 2005, <http://www.nytimes.com/2005/04/05/business/illegal-immigrants-are-bolstering-social-security-with-billions.html>.
- 41** Aaron Williams and Michael Cassidy, “Undocumented, But Not Untaxed,” The Commonwealth Institute, 2016, <http://www.thecommonwealthinstitute.org/2016/01/08/undocumented-but-not-untaxed/>.
- 42** Sherrie A. Kossoudji and Deborah A. Cobb-Clark, “Coming out of the Shadows: Learning about Legal Status and Wages from the Legalized Population,” *Journal of Labor Economics* 20, No. 3, 2002; Raul Hinojosa-Ojeda, “Raising the Floor for American Workers: The Economic Benefits of Comprehensive Immigration Reform,” *Immigration Research and Information*, 2010, <http://www.immigrationresearch-info.org/report/immigration-policy-center/raising-floor-american-workers-economic-benefits-comprehensive-immi>.
- 43** Hoyt Bleakley and Aimee Chin, “Age at Arrival, English Proficiency, and Social Assimilation Among U.S. Immigrants,” *American Economic Journal. Applied Economics* 2, No. 1, 2010; Barry R. Chiswick and Paul W. Miller, “Immigrant Earnings: Language Skills, Linguistic Concentrations and the Business Cycle,” *Journal of Population Economics* 15, No. 1, 2002
- 44** Jill H. Wilson, “Investing in English Skills: The Limited English Proficient Workforce in U.S. Metropolitan Areas,” The Brookings Institution, 2014, <http://www.brookings.edu/research/reports2/2014/09/english-skills>.

# Endnotes: Methodology

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- 1** Steven Ruggles, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek. Integrated Public Use Microdata Series: Version 6.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2015.
- 2** U.S. Census Bureau, Survey of Business Owner and Self-Employed Persons Data Sets. <http://www.census.gov/programs-surveys/sbo/data/data-sets.html>
- 3** “Fortune 500,” *Fortune*, 2015, <http://fortune.com/fortune500/2015/>.
- 4** “The ‘New American’ Fortune 500,” Partnership for a New American Economy, 2011, <http://www.renewoureconomy.org/wp-content/uploads/2013/07/new-american-fortune-500-june-2011.pdf>.
- 5** “The Power of the Purse: The Contributions of Hispanics to America’s Spending Power and Tax Revenues in 2013,” Partnership for a New American Economy, 2014, <http://www.renewoureconomy.org/research/page/2/>.
- 6** “Who Pays? A Distributional Analysis of the Tax Systems in All 50 States (5th edition),” Institute on Taxation and Economic Policy, 2014, [http://www.itep.org/whopays/full\\_report.php](http://www.itep.org/whopays/full_report.php).
- 7** “The Distribution of Household Income and Federal Taxes, 2011,” Congressional Budget Office, Washington, D.C., 2014, <https://www.cbo.gov/publication/49440#title0>.
- 8** Office of Retirement and Disability Policy U. S. Social Security Administration, “OASDI and SSI Program Rates & Limits,” 2014, [https://www.ssa.gov/policy/docs/quickfacts/prog\\_highlights/RatesLimits2014.html](https://www.ssa.gov/policy/docs/quickfacts/prog_highlights/RatesLimits2014.html).
- 9** Ibid.
- 10** Ibid.
- 11** Jacob Vigdor, “Immigration and the Revival of American Cities,” Partnership for a New American Economy, 2013, <http://www.renewoureconomy.org/issues/american-cities/>.
- 12** Bureau of Economic Analysis, <http://www.bea.gov/regional/index.htm>
- 13** United States Department of Agriculture, “State Fact Sheets, Economic Research Service” 2016, <http://www.ers.usda.gov/data-products/state-fact-sheets.aspx>
- 14** United States Department of Agriculture, Economic Research Service, “Cash Receipts by Commodity, 2010-2015,” <http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/cash-receipts-by-commodity.aspx>.
- 15** United State Department of Agriculture, “Farm Labor Survey”, [https://www.nass.usda.gov/Surveys/Guide\\_to\\_NASS\\_Surveys/Farm\\_Labor/](https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Farm_Labor/)
- 16** Stephen Bronars, “A Vanishing Breed: How the Decline in U.S. Farm Laborers Over the Last Decade has Hurt the U.S. Economy and Slowed Production on American Farms,” Partnership for a New American Economy, 2015, [http://www.renewoureconomy.org/wp-content/uploads/2015/08/PNAE\\_FarmLabor\\_August-3-3.pdf](http://www.renewoureconomy.org/wp-content/uploads/2015/08/PNAE_FarmLabor_August-3-3.pdf).

- 17** Stephen Bronars, “No Longer Home Grown: How Labor Shortages are Increasing America’s Reliance on Imported Fresh Produce and Slowing U.S. Economic Growth”, Partnership for a New American Economy, 2014, <http://www.renewoureconomy.org/wp-content/uploads/2014/03/no-longer-home-grown.pdf>.
- 18** U.S. Census Bureau, “STEM, STEM-related, and Non-STEM Occupation Code List 2010,” 2010, <https://www.census.gov/people/io/files/STEM-Census-2010-occ-code-list.xls>
- 19** “About Us,” Burning Glass, accessed July 1, 2016, available here: <http://burning-glass.com/labor-insight/>.
- 20** National Center for Education Statistics, “Integrated Postsecondary Education Data System,” <http://nces.ed.gov/ipeds/>
- 21** Madeline Zavodny, “Immigration and American Jobs,” The Partnership for a New American Economy and the American Enterprise Institute, 2011, [http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE\\_Im-AmerJobs.pdf](http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE_Im-AmerJobs.pdf).
- 22** “Patent Pending: How Immigrants Are Reinventing The American Economy,” Partnership for a New American Economy, 2012, <http://www.renewoureconomy.org/research/patent-pending-how-immigrants-are-reinventing-the-american-economy-2/>.
- 23** U.S. Census Bureau. “2010 Occupation Code List,” [https://www.census.gov/people/io/files/2010\\_OccCodeswithCrosswalkfrom2002-2011nov04.xls](https://www.census.gov/people/io/files/2010_OccCodeswithCrosswalkfrom2002-2011nov04.xls)
- 24** U.S. Census Bureau, “Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2015,” [http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP\\_2015\\_PEPANNRES&prodType=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2015_PEPANNRES&prodType=table)
- 25** U.S. Department of Health and Human Services, “Shortage Designation: Health Professional Shortage Areas and Medically Underserved Areas/Populations,” <http://www.hrsa.gov/shortage/>
- 26** National Center for Health Workforce Analysis, U.S. Department of Health and Human Services, “National and State-Level Projections of Dentists and Dental Hygienists in the U.S., 2012-2025”, 2015, <http://bhpr.hrsa.gov/healthworkforce/supplydemand/dentistry/nationalstatelevelprojectionsdentists.pdf>.
- 27** Vernon Lin, Xiaoming Zhang, and Pamela Dixon, “Occupational Therapy Workforce in the United States: Forecasting Nationwide Shortages,” *PM & R: The Journal of Injury, Function, and Rehabilitation* 7, No. 9, 2015: 946–54, doi:10.1016/j.pmrj.2015.02.012.
- 28** “2014 Annual Report,” Office of Foreign Labor Certification, Employment and Training Administration, United States Department of Labor, 2014, [https://www.foreign-laborcert.doleta.gov/pdf/oflc\\_annual\\_report\\_fy2014.pdf](https://www.foreign-laborcert.doleta.gov/pdf/oflc_annual_report_fy2014.pdf).
- 29** Madeline Zavodny, “Immigration and American Jobs,” The Partnership for a New American Economy and the American Enterprise Institute, 2011, [http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE\\_Im-AmerJobs.pdf](http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE_Im-AmerJobs.pdf).
- 30** Giovanni Peri, Kevin Shih, Chad Sparber, and Angela Marek Zeitlin, “Closing Economic Windows: How H-1B Visa Denials Cost U.S.-Born Tech Workers Jobs and Wages During the Great Recession,” 2014, [http://www.renewoureconomy.org/wp-content/uploads/2014/06/pnae\\_h1b.pdf](http://www.renewoureconomy.org/wp-content/uploads/2014/06/pnae_h1b.pdf).
- 31** Manuel Pastor and Justin Scoggins, “Citizen Gain: The Economic Benefits of Naturalization for Immigrants and the Economy,” 2012, <http://www.immigrationresearch-info.org/report/university-southern-california/citizen-gain-economic-benefits-naturalization-immigrants-and-e>.
- 32** NAFSA, “International Student Economic Value Tool,” [http://www.nafsa.org/Explore\\_International\\_Education\\_Impact/Data\\_And\\_Statistics/NAFSA\\_International\\_Student\\_Economic\\_Value\\_Tool/#stateData](http://www.nafsa.org/Explore_International_Education_Impact/Data_And_Statistics/NAFSA_International_Student_Economic_Value_Tool/#stateData)

- 33** U.S. Department of Health and Human Services, “National Vital Statistics Reports, Deaths: Final Data for 2013”, 2016, [http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64\\_02.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf)
- 34** Department of Homeland Security, “Yearbook of Immigration Statistics: 2014 Naturalizations, Table 22 - Persons Naturalized by State or Territory of Residence: FY 2005 to 2014”, <https://www.dhs.gov/yearbook-immigration-statistics-2014-naturalizations>
- 35** Federal Election Commission. “Federal Elections 2012: Elections for the President, the U.S. Senate and the U.S. Representatives”, 2013, <http://www.fec.gov/pubrec/fe2012/federalelections2012.pdf>.
- 36** George J. Borjas, “The Labor Supply of Undocumented Immigrants,” NBER Working Paper (National Bureau of Economic Research, Inc, 2016), <https://ideas.repec.org/p/nbr/nberwo/22102.html>.

ABOUT

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The Partnership for a New American Economy brings together more than 500 Republican, Democratic and Independent mayors and business leaders who support sensible immigration reforms that will help create jobs for Americans today. Visit [www.renewoureconomy.org](http://www.renewoureconomy.org) to learn more.

